

LOWER COLUMBIA RIVER AND ESTUARY RESEARCH NEEDS IDENTIFICATION WORKSHOP

FLIPCHART NOTES – BREAKOUT SESSION 1

STRENGTHS OF THE KNOWLEDGE BASE

- Did not address further

WEAKNESSES OF THE KNOWLEDGE BASE

- Did not address further

KEY UNCERTAINTIES IN THE KNOWLEDGE BASE

- Did not address further

**QUESTION 1: WHAT RESEARCH WOULD IMPROVE UNDERSTANDING
OF HOW VARIOUS SALMON LIFE-HISTORY STRATEGIES
FUNCTION IN THE ESTUARY?**

**QUESTION 2: WHAT RESEARCH WOULD SUBSTANTIALLY
CONTRIBUTE TO DEVELOPMENT AND APPLICATION OF
AN ECOSYSTEM-BASED APPROACH TO SALMON
HABITAT RESTORATION?**

- Contaminants.
- Temperature conditions in tributary streams.
- Building data management system and communicating information.
- Linking biology and physics.
- Synthesize between agencies, disciplines, and science and management.
- Biological inventory and map of river at species level.
- Linkage of biology and physics and translation at landscape and site specific scales.
- How much of current information is being summarized and translated – is it useful?
- Juvenile abundance and distribution by habitat types. Where are they found, what are the chemical and habitat characteristics of site in context of river?
- What fish are using the estuary, what is the location of use, what is the amount and duration of use?
 - What methods can be employed to increase understanding?
- Reintroduce Chum and Fall Chinook so that they can be studied.
- Nutrient supplementation
- Bathymetry, bathymetry, bathymetry

QUESTION 3: WHAT ARE THE MOST IMPORTANT RESEARCH NEEDS?

Note that the ★'s below indicate research proposed in response to the first two questions.

- Collection of additional data to increase understanding of estuary.
 - ★ Contaminants
 - ★ Biological inventory and map of river at species level
 - ★ Juvenile abundance and distribution by habitat types. Where found, what are chemical and habitat characteristics of site in context of river?
 - ★ What fish are using estuary, what is the location of use, what is the amount and duration of use.
- Translating Physics to biological functioning of the Columbia River System.
- Translate (maps), communicate existing knowledge to public/decision makers.
 - ★ Building data management system and communicating information.
 - ★ Biological inventory and map of river at species level.
- Physical processes – sediment, nutrient flux – that will happen if restoration occurs.
- Is there a balance in focus on the main stream estuary and tributaries?
- Biotic change including introduced species.
- Re-assess the existing biological data
 - Re-analyze beyond existing reports
 - Know limitations of data being analyzed
 - Institutional knowledge catch

QUESTION 4: WHAT ARE THE MAIN CONSTRAINTS TO ACCOMPLISHING THE CRITICAL RESEARCH?

- Money
- Multiple/conflicting mandates for the Army Corps of Engineers.
- Hydropower, Hatchery, Harvest.
- Availability and access to existing knowledge.
- Insufficient taxonomic detail on Columbia River biota.
- Identification of salmonids and sampling intensity to determine estuarine utilization.
- Lack of blueprint for how research fits together and order to be addressed
- Institutional constraints (federal, state and local agencies).